

WE CLAIM:

1. A fluid conduit device comprising

a tube member having a proximal end and a distal end, the proximal end being configured for connection to an aircraft in communication with an onboard tank, the distal end having a diving device that substantially maintains the distal end of the tube member below a surface of a fluid source while the aircraft translates over the fluid source.

2. The device of claim 1, wherein the tube member is substantially rigid.

3. The device of claim 1, wherein the tube member has an upper portion and a detachable lower portion.

4. The device of claim 1, wherein the tube member has a front face, and a strut structure formed on the front face for reducing drag when the aircraft translates over the fluid source.

5. A fluid conduit device comprising
a tube member having a proximal end, and a front face, the proximal end being
configured for connection to an aircraft in communication to an onboard tank, the front
face having a strut structure configured to stabilize a submerged distal end of the tube
member, and to reduce drag, while the aircraft moves over a fluid source.

6. The device of claim 5, wherein the tube member has a diving device
located near the distal end for substantially maintaining the distal end of the tube member
below a surface of the fluid source.

7. The device of claim 5, wherein the tube member is substantially rigid.

8. The device of claim 5, wherein the tube member has an upper portion, and
a detachable lower portion.

20 9. The device of claim 5 further comprising a pump device substantially
contained inside the tube member for increasing the pump capacity of the fluid conduit
device.

10. A pump system comprising
an aircraft having an underside,
a tank onboard the aircraft for containing fluid, and
5 a substantially rigid tube member, connected to the aircraft in communication with
the tank, wherein the tube member is movable to a downward orientation for accessing a
fluid source below the aircraft.

11. The pump system of claim 10, wherein the aircraft is a helicopter.

12. The pump system of claim 10, wherein the aircraft is an airplane.

13. The pump system of claim 10, wherein the tube member is directed rearward
relative to the aircraft when the tube member is in the downward orientation.

20 14. The pump system of claim 13, wherein the tube member forms an angle of
approximately 40° with the underside of the aircraft when the tube member is in the
downward orientation.

15. The pump system of claim 10, wherein the tube member has a distal end and a diving device near the distal end for maintaining the distal end of the tube member in the fluid source while the aircraft moves over the source.

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16. The pump system of claim 10, wherein the tube member has a front face and a strut structure formed on the front face of the tube member for reducing drag when the aircraft moves over the source.

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17. The pump system of claim 10 further comprising an altimeter device onboard the aircraft for monitoring the height of the aircraft over the water source.

18. The pump system of claim 10 further comprising a pump device substantially contained in the tube member for increasing the loading capacity of the pump system.

20 19. The pump system of claim 10 further comprising a flexible tube member connected to the tank for loading fresh water while the aircraft hovers over a source.

20. A fluid conduit device comprising

a substantially rigid tube member having a proximal end configured for connection to an aircraft in communication with an onboard tank, wherein the tube member is movable into a downward orientation for accessing a fluid source below the aircraft.

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21. The device of claim 20, wherein the tube member has a distal end equipped with a diving device that substantially maintains the distal end of the tube member below a surface of a water source while the aircraft translates over the water source.

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22. The device of claim 20, wherein the tube member has a front face, and a strut structure formed on the front face for decreasing drag when the aircraft translates over the fluid source.

23. The device of claim 20, wherein the aircraft is a helicopter.

20 24. The device of claim 20, wherein the fluid source contains salt water.

25. A fluid conduit device comprising
a tube member having a proximal end and a distal end, the proximal end being
configured for connection to an aircraft in communication with an onboard tank so that
the tube member maintains a substantially rearward linear orientation when the aircraft
5 translates over the fluid source and the distal end of the tube member is submerged.

26. The device of claim 25, wherein the tube member forms an acute angle
with the direction of aircraft translation when the tube member is being used to load fluid
into the onboard tank.

27. The device of claim 26, wherein the tube member forms an angle of
approximately 40° with the direction of aircraft translation when the tube member is
15 being used to load fluid into the onboard tank.

28. The device of claim 25, wherein the distal end of the tube member has a
diving device configured to substantially maintain the rearward linear orientation of the
20 tube member relative to the aircraft when the aircraft translates over the fluid source.

29. A method of loading water onto an aircraft comprising pumping fluid from a source through a tube member onto a tank on an aircraft, while the aircraft moves over the source.

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30. The method of claim 29 further comprising the step of directing the tube member rearward relative to the aircraft's direction of travel.

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31. The method of claim 29 further comprising the step of maintaining a distal portion of the tube member below the surface of a fluid source by providing a diving device near the distal portion.

32. The method of claim 29 further comprising the step of providing a pump device in a middle portion of the tube member for increasing the pumping rate through the tube member.